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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: Trafton Docket No: TI-35749  
Serial No: 10/646,854 Examiner: Laxton, Gary L.  
Filed: 8/26/2003 Art Unit: 2838  
For: A RECONFIGURABLE TOPOLOGY FOR SWITCHING AND LINEAR VOLTAGE REGULATORS

**APPEAL BRIEF PURSUANT TO 1.192(c)**

Assistant Commissioner for Patents  
Washington, DC 20231

Dear Sir:

**CERTIFICATION OF FACSIMILE TRANSMISSION**

I hereby certify that the following papers are being transmitted by facsimile to the U.S. Patent and Trademark Office at 571-273-8300 on 9-2-05:

Tommie Chambers  
Tommie Chambers

The following Appeal Brief is respectfully submitted in connection with the above identified application in response to the final rejection mailed January 27, 2005, and the Advisory Action mailed April 20, 2005.

**REAL PARTY IN INTEREST**

The real party in interest is Texas Instruments Incorporated.

**RELATED APPEALS AND INTERFERENCES**

Appellants legal representative knows of no appeals or interferences which will be directly affected, or have a bearing on the Board's decision.

### STATUS OF THE CLAIMS

Claims 1-19 were originally filed with Claim 13 being subsequently claimed.

Claims 5-10 and 14-19 have been allowed. Thus, the subject matter of the instant appeal is Claims 1-4, 11, and 12.

### STATUS OF AMENDMENTS

A Response after final action was filed, amending no claims. Thus, the subject matter of the instant appeal is Claims 1-4, 11, and 12.

### SUMMARY OF THE CLAIMED SUBJECT MATTER

The present invention may be implemented into an integrated circuit having a configurable voltage regulator that is capable of operating according to one of multiple types. The voltage regulator uses one or more common external terminals in operating according to either type of regulator, and uses at least one significant internal component, such as an error amplifier and feedback capacitor, or gate driver, in each of the two modes.

In one aspect of the invention, the voltage regulator is configurable as to operate as either a switching regulator or a linear regulator. The voltage regulator is configured by biasing an external terminal that is shared in each mode. In this example, the same gate driver and error amplifier is used in each of the switching and linear regulator configurations, as is the external terminal from which the switching or pass device is driven.

## GROUNDS OF REJECTION

The first ground of rejection is whether or not Claims 1 and 11 are unpatentable under 35 U.S.C. § 103 over Kanouda, secondly whether Claims 2 and 3 are unpatentable under 35 U.S.C. § 103 over Kanouda in view of Esteves; thirdly whether Claim 4 is unpatentable under 35 U.S.C. § 103 over Kanouda in view of Basso; and lastly whether or not Claim 12 is unpatentable under 35 U.S.C. § 103 over Kanouda in view of Matsuyama.

## ARGUMENTS

It is respectfully submitted that Kanouda does not disclose or suggest the presently claimed invention including at least one configuration switch for selectively coupling elements of a feedback circuitry to the output drive circuitry responsive to the control signals from the configuration circuitry.

The Examiner alleges that elements 12, 13, and 52 disclose the configuration circuitry.

However, the Examiner's attention is directed to Kanouda in Figure 1 where these elements are connected to the input terminals of the main power switches 2, 3 and consequently not coupled to the output.

Additionally, it is respectfully submitted that Esteves does not disclose or suggest the presently claimed invention including at least one configuration switch for selectively coupling elements of a feedback circuitry to the output driver circuitry responsive to control signals from the configuration circuitry.

Again, Esteves discloses that the error amplifier 217 is connected to the logic 212 to drive the main switches 221 and 222.

Again, consequently this does not disclose the claimed subject matter.

Furthermore, where or not, Basso discloses a microcontroller to control the mode selection and whether or not one of ordinary skill in the art would consider modifying Kanouda is of no moment since the resulting construction would still in no way disclose or suggest the presently claimed invention.

Additionally, whether Matsuyama discloses coupling two regulators together and whether or not one of ordinary skill in the art would consider modifying Kanouda is of no moment since the resulting construction would still in no way disclose or suggest the presently claimed invention.

**CONCLUSION**

For the foregoing reasons, Appellants respectfully submit that the Examiner's final rejection of Claims 1-4, 11, and 12 under 35 U.S.C. § 103 is not properly founded in law, and it is respectfully requested that the Board of Patent Appeals and Interferences so find and reverse the Examiner's rejections.

To the extent necessary, the Appellants petition for an Extension of Time under 37 CFR 1.136. Please charge any fees in connection with the filing of this paper, including extension of time fees, to the deposit account of Texas Instruments Incorporated, Account No. 20-0668.

Respectfully submitted,

  
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## APPENDIX

**Claim 1 (previously presented): An integrated circuit, comprising:**

**a plurality of terminals including at least one output terminal and at least one input terminal; and**

**a configurable voltage regulator operable in a first mode or a second mode, comprising:**

**output driver circuitry, having an output terminal and an output coupled to said output terminal;**

**control circuitry, having an input terminal and at least one input coupled to said input terminal, having an output coupled to the output driver circuitry, and including a plurality of elements;**

**configuration circuitry, for receiving a configuration signal; and**

**at least one configuration switch, for selectively coupling elements of a feedback circuitry to the output driver circuitry responsive to control signals from the configuration circuitry.**

**Claim 2 (original): The integrated circuit of claim 1, wherein the configuration circuitry comprises:**

**a configuration amplifier, having a first input connected to the input terminal, and having a second input connected to a reference voltage, the configuration amplifier having an output coupled to the at least one configuration switch.**

**Claim 3 (original):** The integrated circuit of claim 2, wherein the at least one configuration switch has first and second positions;

and wherein the at least one configuration switch is in the first position responsive to a voltage at the input terminal being above the reference voltage, and is in the second position responsive to a voltage at the input terminal being below the reference voltage.

**Claim 4 (original):** The integrated circuit of claim 1, wherein the configuration circuitry comprises:

a writable configuration register, coupled to the at least one configuration switch, for receiving and storing configuration data indicating the selected mode.

**Claim 11 (original):** The integrated circuit of claim 1, further comprising:

functional circuitry, coupled to the voltage regulator.

**Claim 12 (original):** The integrated circuit of claim 1, further comprising:

a second voltage regulator, having an output coupled to a second output terminal, for generating a negative polarity regulated voltage.

**EVIDENCE APPENDIX**

**Appellants are submitting no items of evidence.**

**RELATED PROCEEDINGS APPENDIX**

**Appellants have no submission for the Related Proceeding Appendix.**